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Notice of Allowability

Application No.

10/760,966

Examiner

David L. Hogans

Applicant(s)

ZHANG ET AL.

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Election filed on November 3, 2004.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 20 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 1-20-04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

This Office Action is in response to the Election filed on November 3, 2004.

Election/Restrictions

1. This application is in condition for allowance except for the presence of claims 12-16 to a species non-elected without traverse. Accordingly, claims 12-16 have been cancelled.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows: Claims 12-16 are cancelled.

Status of Claims

Claims 1-11 are pending. Claims 12-16 are cancelled.

Allowable Subject Matter

3. Claims 1-11 are allowed.
4. The following is an examiner's statement of reasons for allowance.

5,264,722 to Tonucci et al. teaches forming arrays of quantum confined elements but fails to teach forming first and second III-V semiconductor layers on either side of an array of vertical quantum dot superlattices.

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5,332,681 to Tonucci et al. teaches forming quantum dots within an AlGaAs matrix but fails to teach an electrically insulating layer with non-photolithographically nanopores filled with vertical quantum dot superlattices.

6,139,626 to Norris et al. teaches forming a quantum dot solid within the pores of a template but fails to teach forming first and second III-V semiconductor layers on either side of an array of vertical quantum dot superlattices.

6,177,291 to Eriguchi et al. teaches forming microneedles within a substrate but fails to teach forming first and second III-V semiconductor layers on either side of an array of vertical quantum dot superlattices.

6,231,744 to Ying et al. teaches forming an array of nanowires within an anodic aluminum oxide film but fails to teach forming first and second III-V semiconductor layers on either side of an array of vertical quantum dot superlattices.

6,359,288 to Ying et al. teaches forming an array of nanowires within an anodic aluminum oxide film but fails to teach forming first and second III-V semiconductor layers on either side of an array of vertical quantum dot superlattices.

US 2001/0019565 to Iwasaki et al. teaches forming photonic nanostructures within an anodized alumina film but fails to teach forming first and second III-V semiconductor layers on either side of an array of vertical quantum dot superlattices.

US 2001/0028872 to Iwasaki et al. teaches forming nanochannels within an anodized alumina film but fails to teach forming first and second III-V

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semiconductor layers on either side of an array of vertical quantum dot superlattices.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Hogans whose telephone number is (571) 272-1691. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Craig A. Thompson
CRAIG A. THOMPSON
PRIMARY EXAMINER